



WEDNESDAY'S
News You Can Use

Investing Idle Funds in Today's Rate Environment

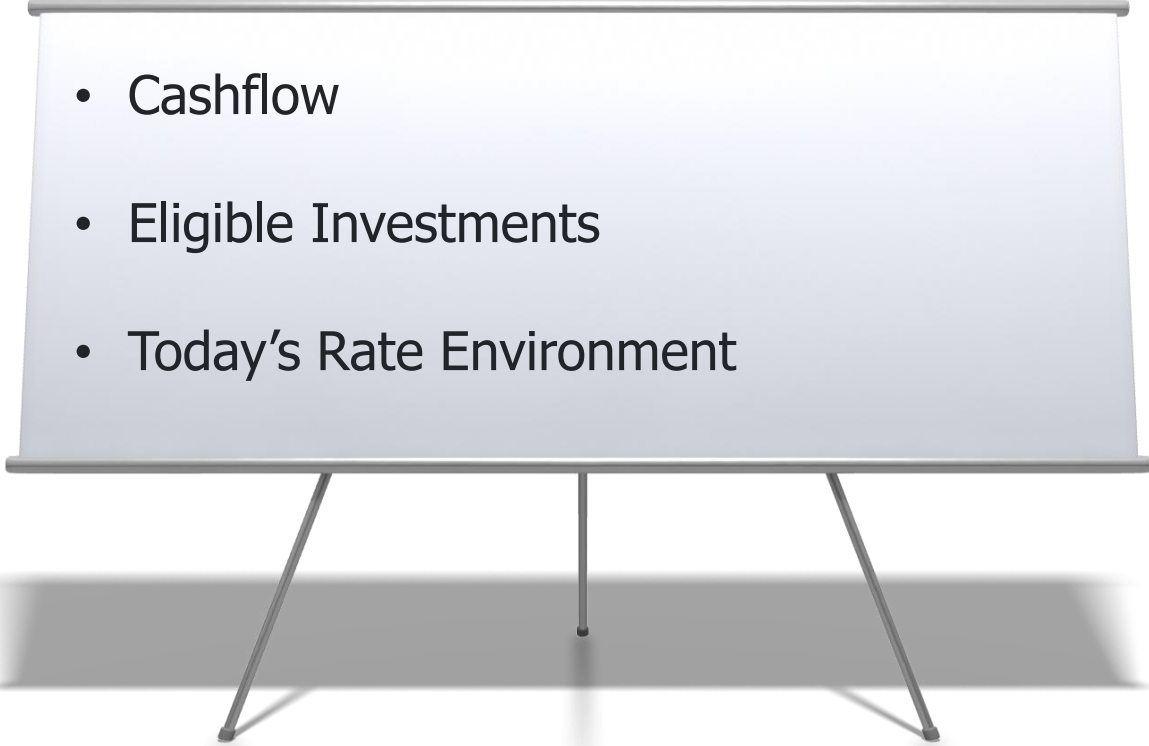
Presented by **Laura Glenn, CFA**
Public Trust Advisors, LLC



Carl Vinson
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Topics For Discussion

- 
- Cashflow
 - Eligible Investments
 - Today's Rate Environment

Cashflow

What is a Cash Flow Forecast?

- Projection of anticipated cash receipts
- Projection of anticipated cash disbursements
- Used to create an estimate of investable cash balances
 - Liquid funds
 - Reserve funds
- “Cash” is the operative word in “cash flow forecasting”
 - No accruals or budgeted funds
 - Only cash is spendable or investable

Objectives of Cash Flow Forecasting

- Ensure sufficient liquidity for 6 to 12-month disbursements
- Improve investment earnings
 - Matching sources and uses of funds
 - Invest reserve/core funds longer-term
 - Managing investment risks
 - Liquidity risk
 - Market risk
- Identify Short-term Cash Deficits
- Warn of Impending Budget Problems



Liquidity and Market Risk

Liquidity Risk: the risk that the investor will have to sell a bond below its true value where the true value is indicated by a recent transaction

- Primary measure of liquidity is the size of the spread between the bid price (price at which a dealer is willing to buy a security) and the ask price (the price at which a dealer is willing to sell a security)
- The wider the bid-ask spread, the greater the liquidity risk

Market Risk: the possibility of an investor experiencing losses due to factors that affect the overall performance of the financial markets. Also referred to as systematic risk. It cannot be eliminated through diversification. Sources of market risk include recessions, political turmoil, changes in interest rates, natural disasters and terrorist attacks.

Identify Revenues and Expenses

Major Revenues

- Property Taxes
- Sales and Use Taxes
- User Fees
- Shared Revenue
- Non-Recurring Revenue
- Other

Major Expenses

- Payroll and Benefits
- Operating Expenses
- Debt Service
- Capital Projects
- Non-Recurring Expenses
- Other

The Forecasting Process

- Review Historical Cash Flows
 - More data is better
 - Daily for 12 months, monthly for 5 years
 - Worry about the big rocks
 - Recurring versus Non-Recurring
 - Through various economic cycles
- What is the lowest fund balance?
- What IF?
- Seasonal Issues
- Identify Growth Trends
 - Property values increasing due to a strong economy or a hot housing market (or the reverse like 2009!)
- Project Future Balances

Cash Flow Due Diligence

- Evaluating Liquidity Requirements: Look Back or Look Forward
- Historical Cash Flow
 - Gather several years of historical cash flows and look at multiple scenarios that give transparency into what has happened in prior years
 - Goal is to solve what liquidity profile would have sustained you during the timeframe in question and evaluate its usefulness for the future. History doesn't always repeat itself!
- Projected Cash Flow
 - Gather information from internal and external participants as to projected cash flow needs and match portfolio assets to major liabilities
 - This optimizes the amount of liquidity necessary to meet obligations during the normal cyclical fluctuations of cash flow an entity experiences

Eligible Investments

Eligible Investments

36-83-4. Authorized investments; delegation of investment authority to financial officer; objective of investment.

(a)

(1) Subject to the procedures set forth in this chapter, the governing authority of any local government may invest and reinvest any money subject to its control and jurisdiction in:

(A) Obligations of this state or of other states;

(B) Obligations issued by the United States government;

(C) Obligations fully insured or guaranteed by the United States government or a United States government agency;

(D) Obligations of any corporation of the United States government;

(E) Prime bankers' acceptances;

(F) The local government investment pool established by Code Section 36-83-8;

(G) Repurchase agreements; and

(H) Obligations of other political subdivisions of this state.

(2) Subject to the procedures set forth in this chapter, any other body created for a public purpose may, upon obtaining prior approval of the State Depository Board, invest and reinvest any money subject to its control and jurisdiction in the local government investment pool established by Code Section 36-83-8.

Eligible Investments

- As listed in Code Section 36-83-4
 - Need a custodian to hold, account and collect principal and interest payments on behalf of the municipality as well as provide investment reporting for all obligations except LGIP
- Bank Products
 - Deposit Products – DDA, Money Market Deposit Account (MMDA)
 - Earnings Credit Rate (ECR) – utilized to offset bank fee expenses
 - Certificate of Deposits (CDs)
 - Over \$250 thousand must be collateralized with eligible collateral
- IntraFi
 - ICS
 - CDARs

Bank Accounts



Earnings Credit Rate (ECR)

- Do you know what the ECR on your account is today? Has it moved with the Fed?
- Would you be better off paying hard dollar fees and taking excess cash and investing it and using interest earnings to pay hard dollar fees?

Bank Deposits



Any cash at the bank over \$250k requires collateralization

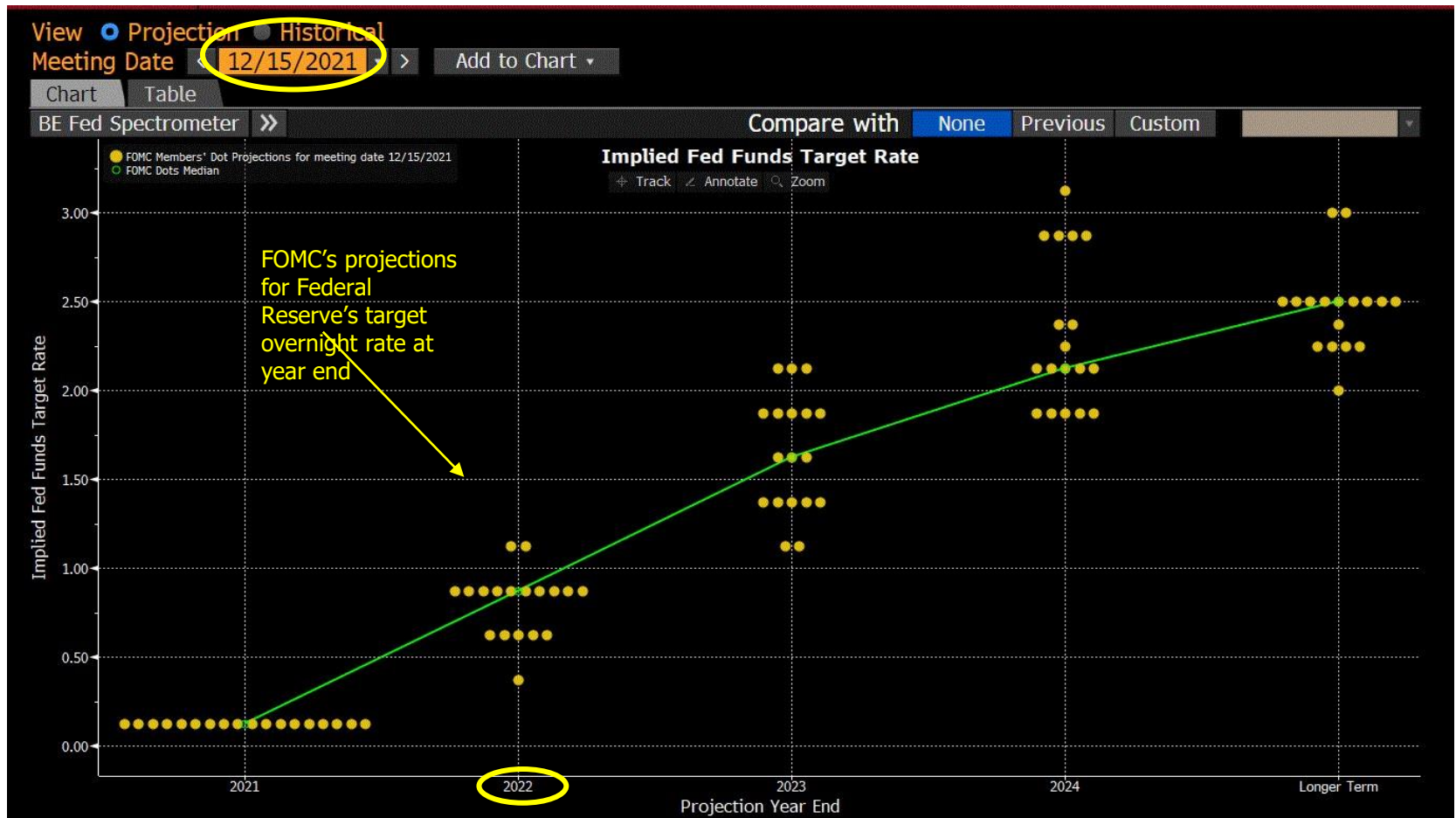
Collateral is expensive for the banks. Will impact the rate offered

Banks can utilize pledging pool and potentially reduce collateral requirements

The Fed, The Economy, and Investments



The DOT PLOT



Inflation, Inflation, Inflation



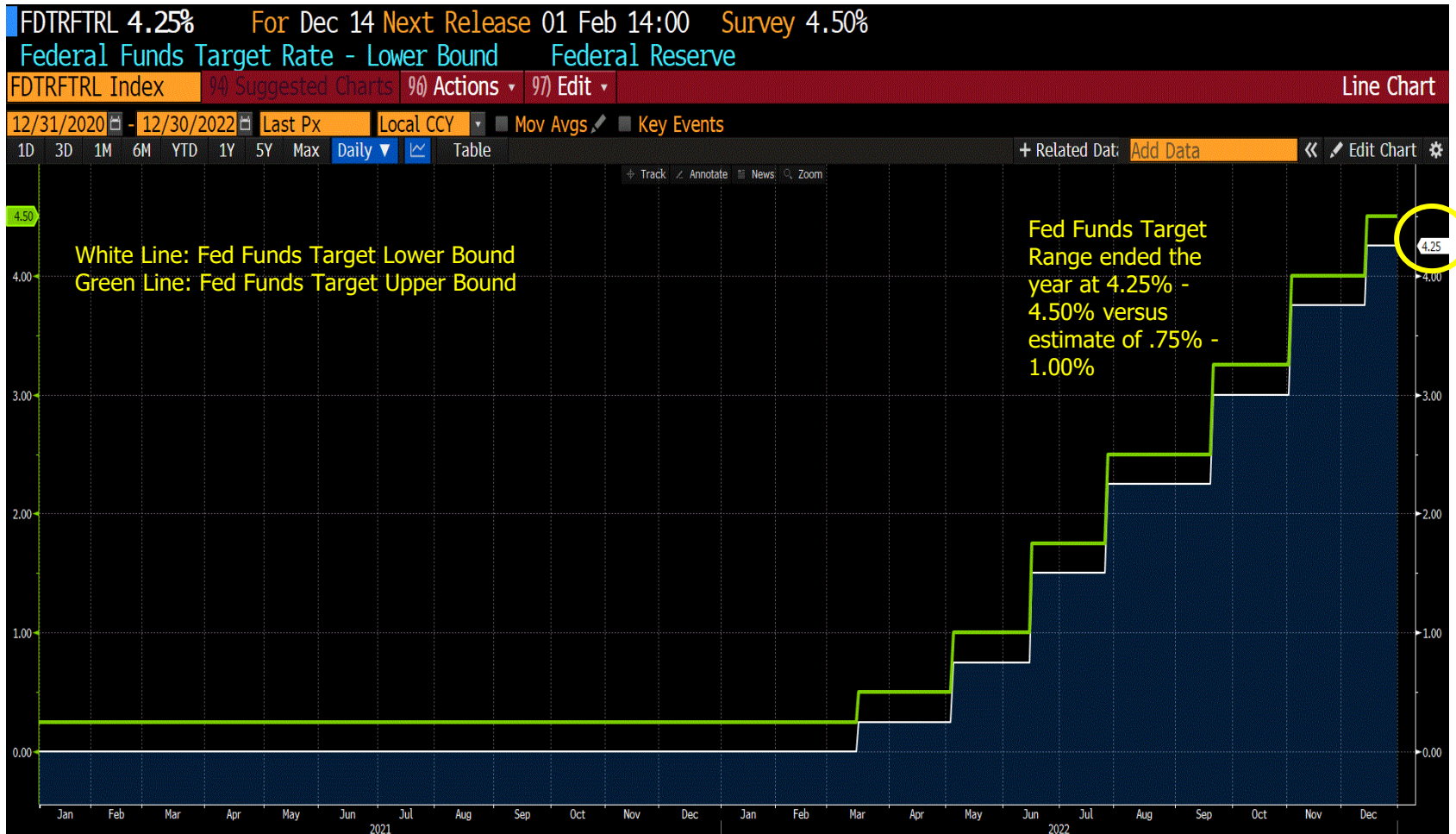
Consumer Price Index (CPI): A measure of prices paid by consumers for a basket of goods/services and only accounts for urban households.

Personal Consumption Expenditure (PCE): Fed's preferred measure of inflation. Tracks overall price changes for goods and services for all U.S. households and nonprofits.

Source: Bloomberg

Please refer to the Disclosures slide for additional information

Fed Funds Target at Year End 2022



More Important Than the Fed



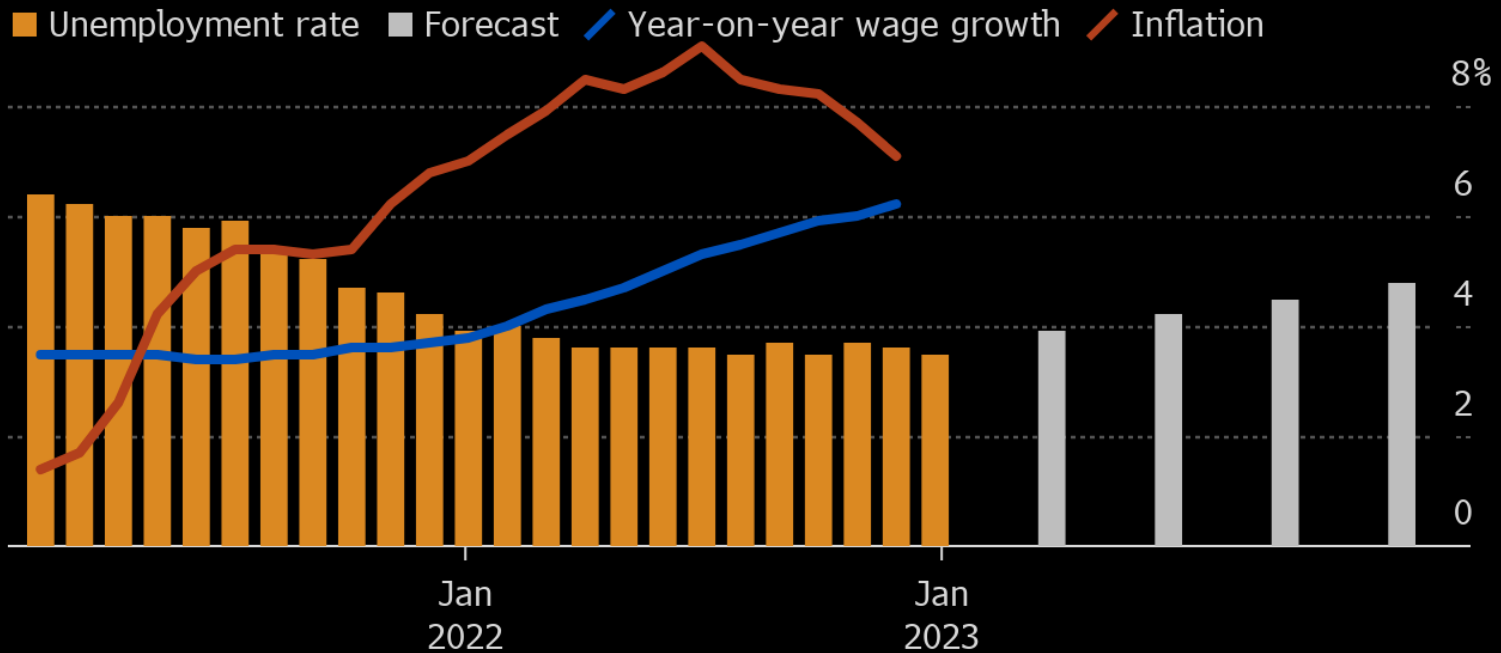
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Okay, Maybe Not

Wages and Inflation

Jobs, Wages and Inflation

A hiring boom has helped US wages catch up with prices. Most economists say a cooler labor market is needed to bring inflation down in 2023



Source: Bureau of Labor Statistics, Atlanta Fed Wage Growth Tracker, Bloomberg

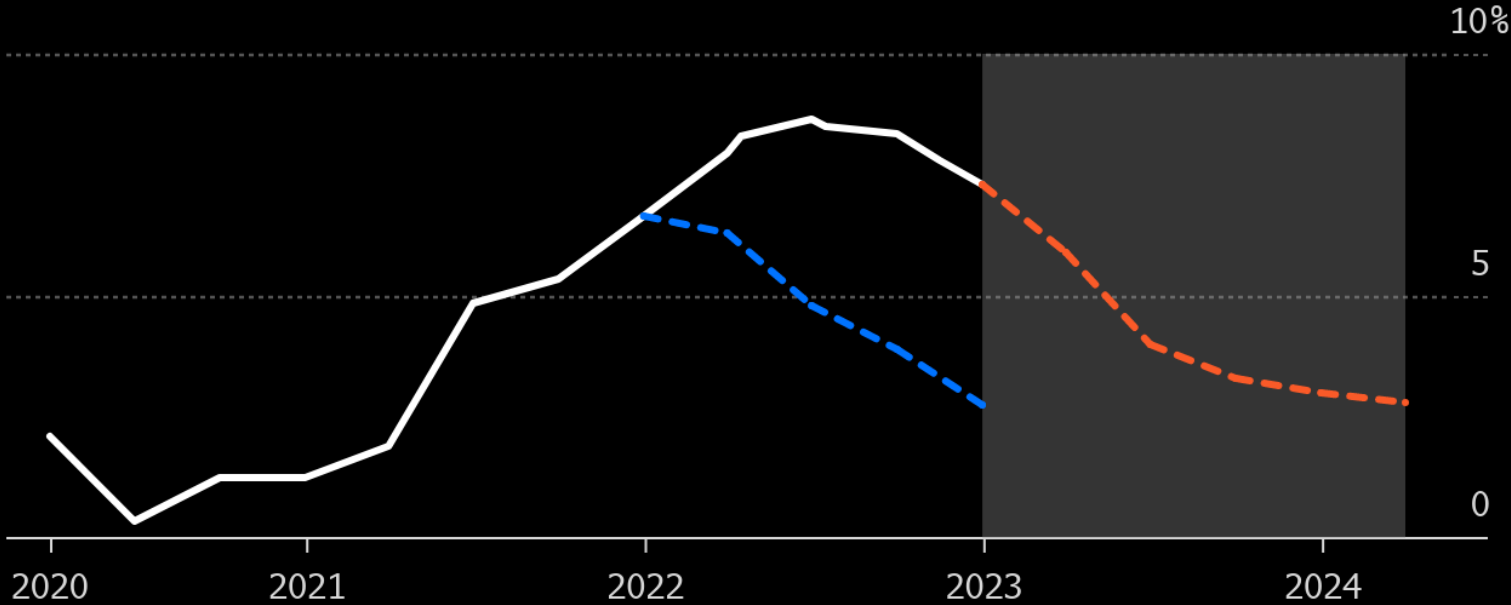


In Reality

Actual and Forecast US Inflation

Last year inflation refused to fade away as predicted. Now it's declining, and the key questions are: how far and how fast?

Actual change in consumer prices Forecast 1 year ago Forecast now



Source: Bureau of Labor Statistics, Bloomberg economist surveys

Bloomberg

Current Rate Environment



U.S. Treasury Rates: Then and Now



The Fed DOT Plot – As of December 2022 Meeting



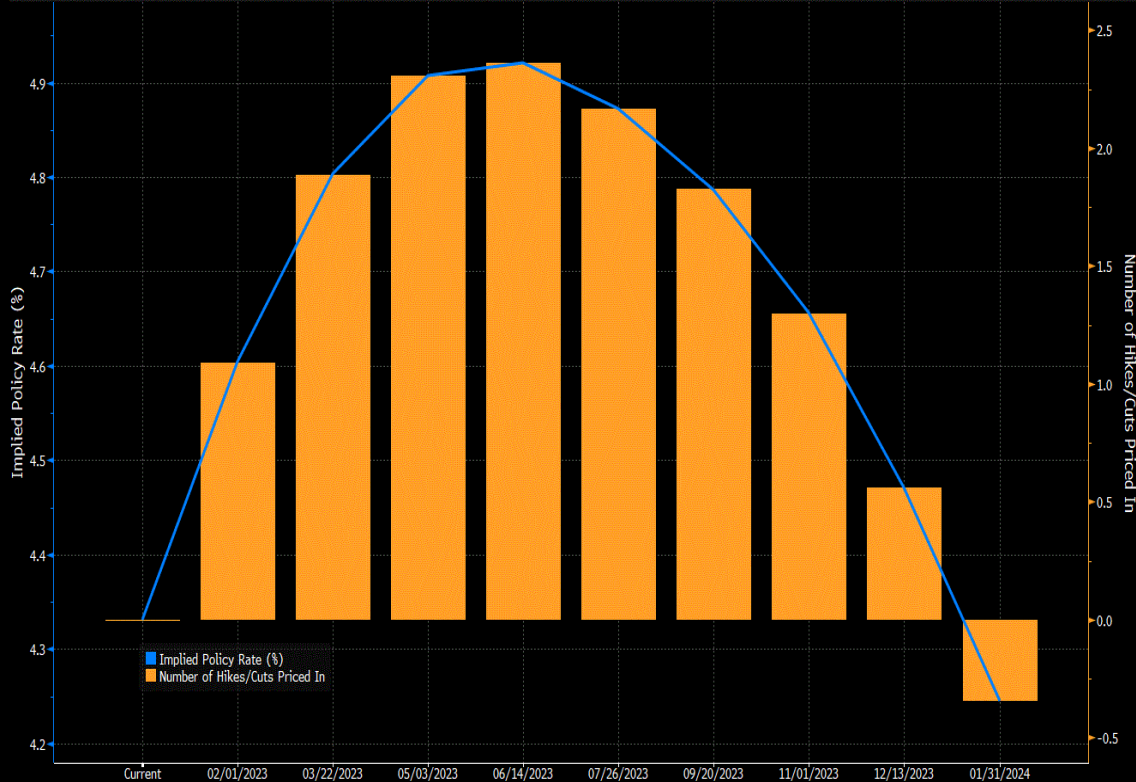
Fed Funds Futures

<Back> to Return

World Interest Rate Probability: Rate Path

Implied Overnight Rate & Number of Hikes/Cuts

Each data point along the blue line represents the market-implied overnight rate after the corresponding FOMC meeting date. Rates are implied by the Federal Funds Futures contracts.



Yellow bars represent the number of 25 basis point rate hikes that are currently priced in.

Liquidity





Georgia Fund 1

Monthly Yield

(Calculated on an annualized basis, net of fees)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
January	1.03	0.17	0.17	0.11	0.14	0.11	0.14	0.31	0.53	1.33	2.43	1.60	0.06	0.06
February	0.83	0.15	0.17	0.12	0.16	0.11	0.15	0.33	0.56	1.37	2.43	1.60	0.05	0.09
March	0.70	0.17	0.16	0.13	0.16	0.12	0.16	0.35	0.65	1.51	2.44	1.17	0.05	0.17
April	0.53	0.19	0.14	0.14	0.15	0.13	0.16	0.37	0.79	1.65	2.45	0.80	0.04	0.34
May	0.38	0.20	0.13	0.15	0.13	0.13	0.17	0.38	0.84	1.72	2.42	0.50	0.036	0.68
June	0.39	0.20	0.13	0.15	0.12	0.13	0.17	0.40	0.94	1.86	2.41	0.25	0.035	1.08
July	0.40	0.21	0.12	0.15	0.11	0.14	0.18	0.39	1.03	1.95	2.39	0.20	0.042	1.56
August	0.42	0.22	0.12	0.15	0.11	0.14	0.18	0.39	1.04	1.97	2.20	0.15	0.045	2.13
September	0.42	0.22	0.12	0.17	0.11	0.14	0.18	0.42	1.08	2.03	2.08	0.11	0.044	2.37
October	0.33	0.21	0.10	0.18	0.13	0.15	0.18	0.42	1.09	2.18	1.89	0.10	0.05	2.87
November	0.26	0.20	0.10	0.18	0.12	0.15	0.17	0.42	1.10	2.23	1.69	0.07	0.05	3.58
December	0.24	0.18	0.09	0.18	0.12	0.15	0.24	0.47	1.21	2.35	1.62	0.06	0.05	3.92

Past performance is not an indication of future performance. Any financial and/or investment decision may incur losses.



Investing in a Rising Interest Rate Environment

Month	Monthly Yield	Monthly Income	Annual Income*
Jan-21	0.06%	\$ 5,096	
Feb-21	0.05%	3,836	
Mar-21	0.05%	4,247	
Apr-21	0.04%	3,288	
May-21	0.04%	3,058	
Jun-21	0.04%	2,877	
Jul-21	0.04%	3,567	
Aug-21	0.05%	3,822	
Sep-21	0.04%	3,616	
Oct-21	0.05%	4,247	
Nov-21	0.05%	4,110	
Dec-21	0.05%	4,247	\$ 46,008
Jan-22	0.06%	5,096	
Feb-22	0.09%	6,904	
Mar-22	0.17%	14,438	
Apr-22	0.34%	27,945	
May-22	0.68%	57,753	
Jun-22	1.08%	88,767	
Jul-22	1.56%	132,493	
Aug-22	2.13%	180,904	
Sep-22	2.37%	194,795	
Oct-22	2.87%	243,753	
Nov-22	3.58%	294,247	
Dec-22	3.92%	332,932	\$ 1,580,027

As the Fed was aggressively raising interest rates in 2022, LGIPs and its participants benefited as seen by the chart to the left.

For all of 2021, a \$100 million investment in Georgia Fund 1 earned a mere \$46,008

In 2022, the rate paid out in May 2022 (0.68%) provided more income that month than for all of 2021.

A \$100 million investment earned \$1,580,027 in 2022! Meaningful income for the first time in a long time – Thank You Fed!

*Assume \$100 million investment and no reinvestment of interest income

Source: ost.georgia.gov as of 1.18.2023

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Please refer to the Disclosures slide for additional information

Forecasting Cash Flow and Its Impact on Investment Income

Please refer to the Disclosures slide
for additional information



2023 What Should I do with Core Funds?



Please refer to the Disclosures slide for additional information

Rates Rise, Rates Fall Know Your Cashflow!

Month	Monthly Yield	Monthly Income	Annual Income*
Jan-19	2.43%	\$ 206,384	
Feb-19	2.43%	186,411	
Mar-19	2.44%	207,233	
Apr-19	2.45%	201,370	
May-19	2.42%	205,534	
Jun-19	2.41%	198,082	
Jul-19	2.39%	202,986	
Aug-19	2.20%	186,849	
Sep-19	2.08%	170,959	
Oct-19	1.89%	160,521	
Nov-19	1.69%	138,904	
Dec-19	1.62%	137,589	\$ 2,202,822
Jan-20	1.60%	135,890	
Feb-20	1.60%	127,123	
Mar-20	1.17%	99,370	
Apr-20	0.80%	65,753	
May-20	0.50%	42,466	
Jun-20	0.25%	20,548	
Jul-20	0.20%	16,986	
Aug-20	0.15%	12,740	
Sep-20	0.11%	9,041	
Oct-20	0.10%	8,493	
Nov-20	0.07%	5,753	
Dec-20	0.06%	5,096	\$ 549,260

The Fed began lowering interest rates in late 2019 and to zero in 2020 in response to the COVID pandemic. LGIPs and its participants saw monthly income deteriorate from early 2019.

For all of 2019, a \$100 million investment in Georgia Fund 1 earned \$2.2 million

In 2020, a \$100 million investment in Georgia Fund 1 earned a mere \$549,260

*Assume \$100 million investment and no reinvestment of interest income

Source: ost.georgia.gov as of 1.18.2023

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The Two-Year Treasury 2019 - 2021



Buy the Two Year or Stay in Georgia Fund 1

December 31, 2018

Two-Year Treasury: 2.49%

Assumptions

\$100 million investment

Does not include reinvestment of income

Income Differential is \$2,227,918 over two years if you bought the two-year treasury

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Dec-20	0.06%	5,096	\$ 549,260

Two-Year Treasury	Income
Year 1 income	\$2,490,000
Year 2 Income	2,490,000
Total for 2 Years	\$4,980,000

Sources: ost.georgia.gov as of 1.18.2023, Bloomberg

The Three-Year Treasury 2019-2021



Buy the Three Year or Stay in Georgia Fund 1

Month	Monthly Yield	Monthly Income	Annual Income-
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Nov-21	0.05%	4,110	
Dec-21	0.05%	4,247	\$ 46,008

December 31, 2018

Three-Year Treasury: 2.46%

Assumptions

\$100 million investment

Does not include reinvestment of income

Income Differential is \$4,581,910 over three years if you bought the three-year treasury

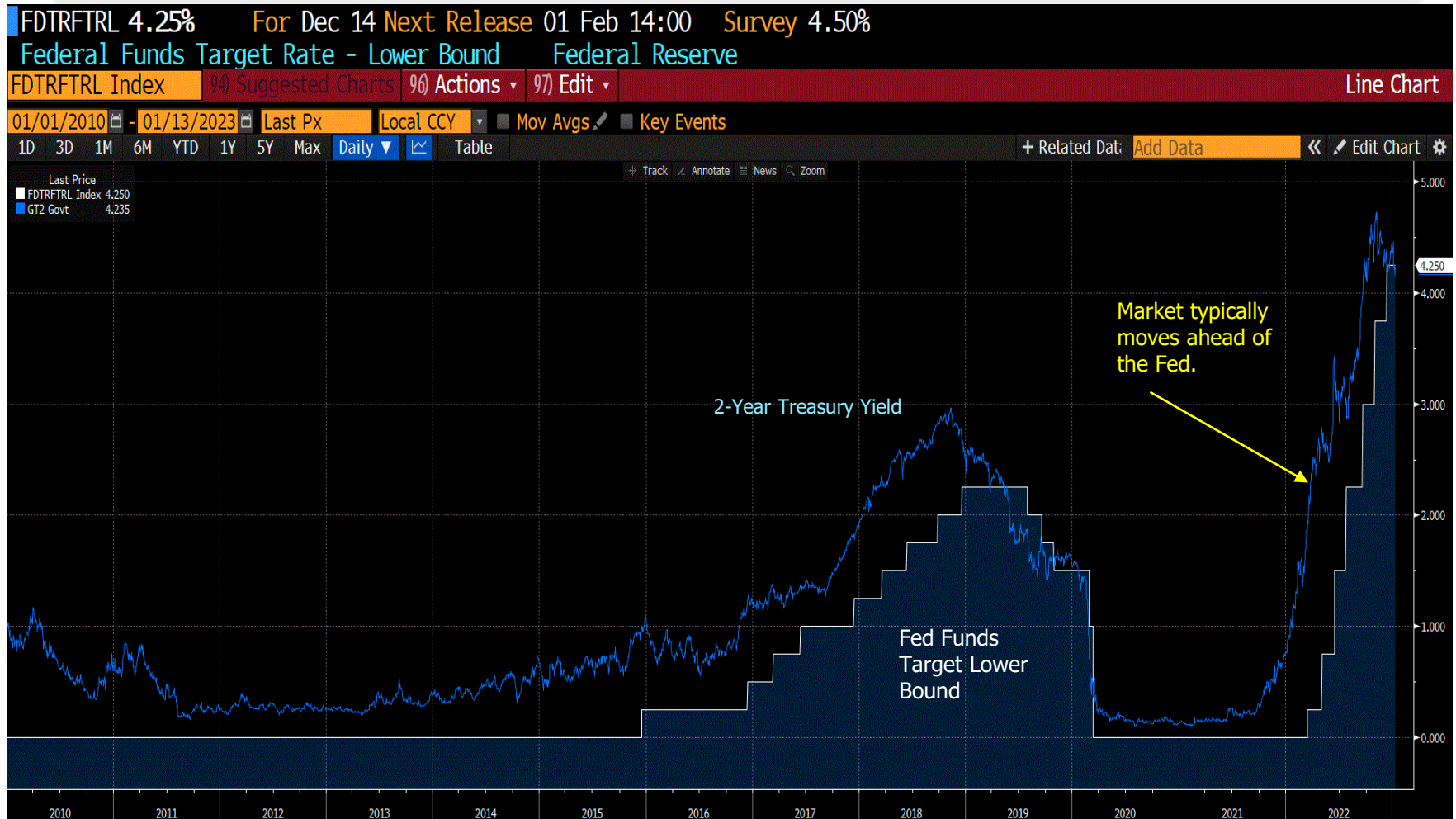
Three Year Treasury	Income
Year 1 Income	\$2,460,000
Year 2 Income	2,460,000
Year 3 Income	2,460,000
Total for 3 Years	\$7,380,000

Sources: Bloomberg, ost.georgia.gov as of 1.18.2023



Please refer to the Disclosures slide
for additional information

The Two-Year Treasury versus the Fed



2023 and Beyond

- Know your Cashflow
 - What do you need liquid?
 - What can be invested out longer term?
 - Funds not needed within a year
 - Rainy Day Reserves
- Don't always forecast interest earnings on what you are earning today
 - Markets move, rates change
 - Better to outperform, better than under deliver

QUESTIONS?



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Thank You!



Carl Vinson
Institute of Government
UNIVERSITY OF GEORGIA

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Public Trust Advisors

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Investment Risks

Interest Rate Risk: the impact of changes in interest increase/decrease the market value of a bond

- Related to duration; market value change is inversely related to interest rate movement

Yield Curve Risk: portfolios have different exposures to how the yield curves shifts

- Any measure of interest rate risk that assumes that the interest rates changes by an equal number of basis points for all maturities is only an approximation

Reinvestment Risk: : the risk that proceeds available for reinvestment must be reinvested at a lower interest rate than the instrument that generated the proceeds

Liquidity Risk: : the risk that the investor will have to sell a bond below its true value where the true value is indicated by a recent transaction

Primary measure of liquidity is the size of the spread between the bid price (price at which a dealer is willing to buy a security) and the ask price (the price at which a dealer is willing to sell a security)

The wider the bid-ask spread, the greater the liquidity risk

With a weighted-average maturity (WAM) less than 60 days, a rated LGIP or fund similar to Georgia Fund 1 invest in short-term securities (typically less than 397 days stated final maturity). Monthly rate is a variable rate and closely tied to the Fed Funds target. Interest rate paid out to participants will increase in a rising rate environment and fall in a declining interest rate environment

